

Speight J and Bradley C (2000) ADDQoL indicates negative impact of diabetes on quality of life despite high levels of satisfaction with treatment. *Diabetologia*, 43: [Suppl1]: I-IV, A225.



ADDQoL indicates negative impact of diabetes on quality of life despite high levels of satisfaction with treatment

Jane Speight and Clare Bradley

Health Psychology Research, Dept of Psychology, Royal Holloway, University of London, Egham, Surrey, TW20 0EX, UK.

1 Introduction

The Diabetes Treatment Satisfaction Questionnaire (DTSQ) is a widely used measure (in 20+ languages) of patient satisfaction with treatment (1, 2). The DTSQ is often, perhaps misleadingly, referred to as a quality of life (QoL) indicator.

The Audit of Diabetes-Dependent Quality of Life (ADDQoL) was designed to have a broader focus on the impact of diabetes on QoL, taking into account the relevance, importance and impact of diabetes on life domains (3).

Similarities and differences between the DTSQ and ADDQoL are here investigated to assess their suitability for evaluating new treatment regimens.

2 The Measures

DTSQ

- 6 Treatment Satisfaction items:
 - ☞ rated: 0 ('very dissatisfied') to 6 ('very satisfied')
 - ☞ summed scores produce a total Treatment Satisfaction score (range: 0 to 36)
- 2 remaining items are treated individually:
 - ☞ item 2: perceived frequency of hyperglycaemia
 - ☞ item 3: perceived frequency of hypoglycaemia
 - ☞ both rated: 0 ('none of the time') to 6 ('most of the time')

ADDQoL

- 2 overview items:
 - ☞ generic 'present QoL'
 - ☞ diabetes-specific 'impact of diabetes on QoL'
 - ☞ both scored on a scale of -3 (extremely bad present QoL or negative impact of diabetes on QoL) to +3 (excellent present QoL or positive impact of diabetes on QoL)

- 18 domain-specific items:

- ☞ concern the impact of diabetes on specific aspects of life
- ☞ rated on a scale -3 (maximum negative impact) to +3 (maximum positive impact)
- ☞ weighted by the importance of each aspect of life for the individual: rated 3 (very important) to 0 (not at all important)
- ☞ weighted impact scores range from -9 (maximum negative impact of diabetes on QoL) to +9 (maximum positive impact of diabetes on QoL)
- ☞ Average weighted impact (AWI) score: the sum of weighted impact scores for each applicable aspect of life divided by the number of applicable aspects of life (range: -9 to +9)

3 Method

The DTSQ and ADDQoL were used in DIABQoL+ (4), a study of 795 patients at one of two UK hospital diabetes clinics. Patients were given questionnaires by a nurse at the time of their annual review, with a pre-paid envelope for return.

4 Results

Correlation of DTSQ with ADDQoL

The ADDQoL AWI score showed an expected small but significant correlation with the DTSQ Treatment Satisfaction score ($r=0.25$, $p<0.001$). Despite high levels of Treatment Satisfaction (mean 27.76, sd 6.47), the ADDQoL AWI score indicated negative impact of diabetes on QoL (mean -1.96, sd 1.71).

...continued overleaf

Languages available

DTSQ	ADDQoL
- English (UK & US)	- English (UK & US)
- French	
- Canadian French	
- German	
- Spanish	
- Catalan	
- Mexican Spanish	
- Italian	
- Swedish	
- Finnish	
- Norwegian	
- Danish	
- Dutch/Flemish	
- Japanese	
- Arabic	
- Portuguese	
- Serbian / Croatian	
- Albanian	
- Hungarian	
- Russian	
- Hebrew	
- Polish	
	<i>Under development:</i>
	- German
	<i>In preparation:</i>
	- Norwegian
	- Swedish
	- Russian
	- Spanish
	- Catalan

Enquiries including access to questionnaires and data management guidelines:

Professor Clare Bradley
Health Psychology Research
Dept of Psychology
Royal Holloway
University of London
Egham, Surrey
TW20 0EX, UK

Tel: +44 (0)1784 443714
Fax: +44 (0)1784 434347
e-mail: c.bradley@rhbnc.ac.uk

Fig 1a: Impact of treatment on QoL ¹

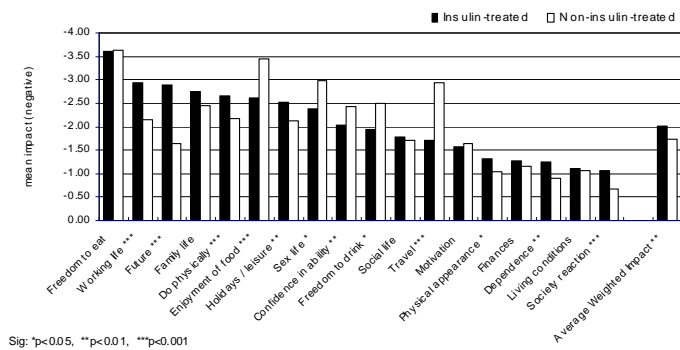
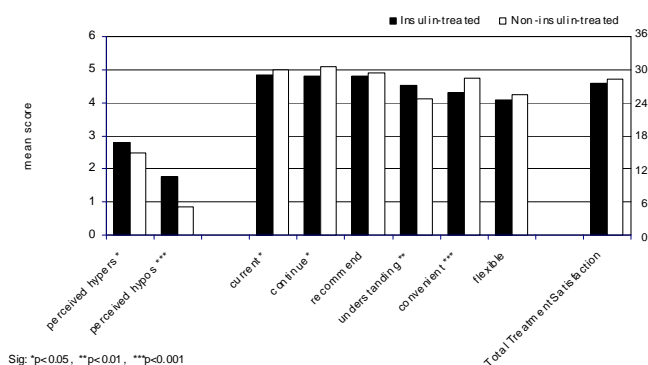


Fig 1b: Impact of treatment on satisfaction ¹



¹ ANCOVA was performed to covary the effects of complications: significances were reduced slightly but most differences remained significant.

Fig 2a: Impact of complications on QoL ²

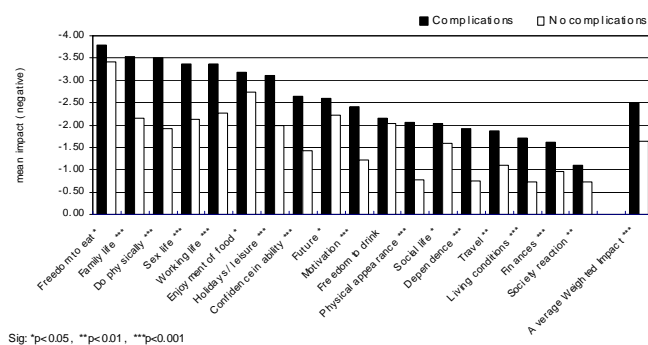
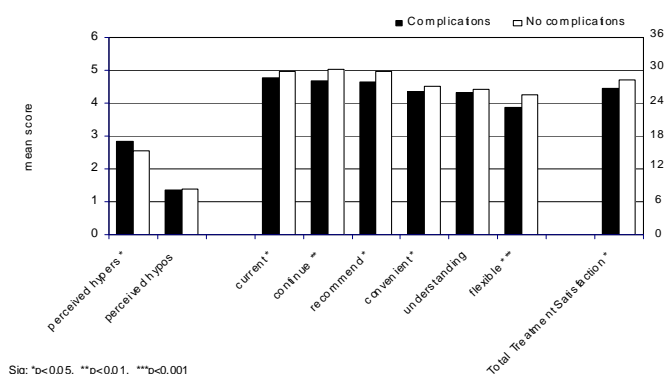


Fig 2b: Impact of complications on satisfaction ²



² ANCOVA was performed to covary the effects of treatment: significances were reduced slightly but most differences remained significant.

Impact of treatment

AWI showed more negative impact of diabetes on QoL for insulin-treated than for non-insulin-treated patients ($p<0.01$) but Treatment Satisfaction did not differ [see Fig.s 1a & 1b].

Impact of complications

People with complications reported greater negative impact of diabetes on QoL than did those without ($p<0.001$) and less Treatment Satisfaction ($p<0.05$) [see Fig.s 2a & 2b].

5 Discussion

There was an expected small but significant correlation between ADDQoL and DTSQ scores, suggesting the two instruments are measuring related but different constructs. High levels of Treatment Satisfaction were observed despite patients, on average, reporting that diabetes had a negative impact on their QoL.

The DTSQ has shown sensitivity to changes in treatment in many multi-national clinical trials. However, the ADDQoL is here shown to be even more sensitive to differences in treatment and complications than the DTSQ. As the ADDQoL identifies more negative psychological outcomes, it has even more scope for showing improvements following treatment change.

ADDQoL domain scores indicate that, on average, 'freedom to eat as I wish' is the aspect of life most negatively impacted by diabetes, regardless of treatment. New treatments that minimise dietary restrictions without loss of glycaemic control will have marked benefits for QoL.

6 Conclusions

- DTSQ showed high levels of Treatment Satisfaction despite perceived negative impact of diabetes on QoL.
- ADDQoL was more sensitive to differences in treatment and complications even though DTSQ is commonly found to be sensitive to treatment changes in clinical trials.
- ADDQoL has even more scope than DTSQ for showing improvements following treatment change.
- Treatments that increase dietary freedoms without loss of diabetes control will have marked benefits for individuals' QoL.

References

- (1) Bradley C (1994) Diabetes Treatment Satisfaction Questionnaire (DTSQ). In Bradley C (Ed) *Handbook of Psychology and Diabetes: a guide to psychological measurement in diabetes research and practice*. Chur, Switzerland: Harwood Academic Publishers.
- (2) Plowright R, Witthaus E and Bradley C (2000) Psychometric evaluation of Diabetes Treatment Satisfaction Questionnaire in 8 languages. *Proceedings of the British Psychological Society* 8, 43.
- (3) Bradley C et al (1999) The development of an individualised measure of the perceived impact of diabetes on quality of life: the ADDQoL. *Qual Life Res* 8, 79-91.
- (4) Speight J, Barendse S and Bradley C (1999) The DIABQoL+ Programme. *Proceedings of the British Psychological Society* 7, 35.

Acknowledgements

This work was funded by Diabetes UK (formerly the British Diabetic Association) (grant no. RD86/0001359 to Prof Clare Bradley). We thank the diabetes care teams at St Thomas' Hospital and the Royal Sussex County Hospital for providing access to their clinics and patients and we thank the patients themselves who participated in the study. We also acknowledge the valuable contribution made to the DIABQoL+ programme by Shalleen Barendse.